REMARKS

Claims 8 and 9 are pending. The Official Action indicates that claims 1 and 2 have been rejected, but it is believed that the Official Action should refer to claims 8 and 9. Claims 8 and 9 remain in the case, and claims 10-19 have been added. Support for the added claims is found throughout the specification, and particularly in paragraphs [0004] through [0014].

Claims 1 and 2 (8 and 9) are rejected under Section 102(b) based on Gardner (U.S. Paten No. 5,885,874). The examiner alleges that Gardner shows all aspects of the instant invention, including:

forming a well region in a semiconductor substrate 102 of a first-conductivity-type (N) with a first region 106 and a second region 108

implanting ions 116, 122 of a first-conductivity-type into the first and second regions

implanting ions of a second-conductivity-type 148 to permit current flow 140

forming a gate insulating film 110, gate electrodes 126, 128, and source and drain regions 150, 152, 154, 156 and

forming field oxide regions 104 separating the first and second regions.

Gardner discloses a method of providing a semiconductor substrate with first and second device regions, forming a gate material over the first and second device regions, and then implanting a dopant into the gate material such that a peak concentration of the dopant has a first depth in the gate material over the first device region and a second depth in the gate material over the second device region, the first depth being substantially greater than the second depth. After implanting the dopant into the gate material, the gate material is etched to form a first gate over the first device region and a second gate over the second device region.

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Source and drains are formed in the first and second device regions, and then the dopant in the gate material is transferred into a first channel region in the first device region without transferring essentially any of the dopant into a second channel region in the second device region. This provides depletion-mode doping in the first channel region while retaining enhancement-mode doping in the second channel region.

According to the present invention, on the other hand, a first transistor of a MIS depletion type and a second transistor forming part of a masked ROM are formed on a single semiconductor substrate by forming a well region of a first-conductivity-type in a first region where the first transistor is to be formed and a second region where the second transistor is to be formed, implanting impurity ions of a first-conductivity-type in the regions where the first and second transistors are to be formed to form a channel region, implanting impurity ions of a second-conductivity-type in the channel regions of the first and second transistors to permit current to flow when a gate-source voltage of the first transistor is zero and to change the second transistor into resistance, said implanting of impurity ion of said second conductivity type in both of said channel regions being carried out in the same ion implantation step; and thereafter forming a gate insulating film, a gate electrode, and source and drain regions of a second-conductivity-type in each of the first and second transistors. This is clearly distinct from the process of Gardner, in which a dopant is implanted into a gate material and then is transferred into a first channel region in a first device region without transferring essentially any of the dopant into a second channel region in a second device region. Claim 8 has been amended to emphasize that the gate in the process according to the present invention is formed after the formation of the channel regions, that the implanting of impurity ions of the second-conductivity-type is into the channel regions of the first and second to permit current to flow when a gate-source voltage of the first transistor is zero and to change the second transistor into resistance, and that said implanting of impurity ion of said second conductivity type in both of said channel regions being carried out in the same ion implantation step. This is not disclosed or suggested by the process of Gardner.

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It is believed that these changes to claim 8 emphasize the differences between the present invention and Gardner. If there are any problems with these changes, Applicants' attorney would appreciate a telephone call. In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested

Respectfully submitted,

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Date

Marc A. Rossi
Registration No. 31,923

Attorney Docket: FUJI:213 A

ROSSI & ASSOCIATES
P.O. Box 826
Ashburn, VA 20146-0826
703-726-6020

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